WHAT IS CLAIMED IS:

1. A method for detecting a nucleic acid target sequence comprising:
   a) hybridizing a signal primer comprising an adapter sequence to the target sequence, whereby a complement of the adapter sequence is produced;
   b) hybridizing a reporter probe comprising a reporter moiety to the complement of the adapter sequence, whereby a double-stranded reporter moiety is produced, and;
   c) detecting synthesis of the complement of the reporter moiety as an indication of the presence of the target sequence.

2. The method of Claim 1 wherein the double-stranded reporter moiety is produced upon hybridization of the reporter moiety to the complement of the adapter sequence.

3. The method of Claim 2 wherein the reporter moiety is a molecular beacon.

4. The method of Claim 1 wherein the double-stranded reporter moiety is produced upon synthesis of a complement of the reporter moiety.

5. The method of Claim 1 wherein the complement of the adapter sequence is synthesized concurrently with target amplification.

6. The method of Claim 5 wherein target amplification is by SDA, 3SR, NASBA, TMA or PCR.

7. The method of Claim 1 wherein the complement of the adapter sequence is synthesized without amplification of the target sequence.

8. The method of Claim 7 wherein the complement of the adapter sequence is displaced from the signal primer by extension of an upstream primer prior to hybridization to the reporter probe.

9. The method of Claim 1 wherein the reporter probe is non-extendible.

10. The method of Claim 1 wherein a change in fluorescence is detected.

11. The method of Claim 10 wherein the change in the fluorescence results directly from unfolding of a secondary structure.

12. The method of Claim 10 wherein the change in fluorescence results from cleavage or nicking of a restriction endonuclease recognition site in the double-stranded reporter moiety.

13. The method of Claim 10 wherein the change in fluorescence is detected in real-time.

14. The method of Claim 10 wherein the change in fluorescence is detected at a selected endpoint in the reaction.

15. The method of Claim 1 wherein the reporter moiety is labeled with a fluorescent donor/quencher dye pair.

16. The method of Claim 1 wherein the reporter moiety is selected from the group consisting of secondary structures and specialized sequences.

17. The method of Claim 16 wherein the double-stranded reporter moiety is detected by unfolding of a hairpin structure, unfolding of a G-quartet structure or nicking or cleavage of a restriction endonuclease recognition site.

18. The method of Claim 1 which comprises multiple signal primers, each signal primer having a separately detectable adapter sequence.

19. The method of Claim 18 wherein each signal primer hybridizes to a different sequence variant of the target sequence.

20. A method for detecting amplification of a target sequence comprising, in an amplification reaction:

a) hybridizing a signal primer comprising an adapter sequence to the target sequence;

b) extending the signal primer on the target sequence to produce an extension product;

c) hybridizing an amplification primer to the extension product and extending the amplification primer to synthesize a complement of the adapter sequence;

d) hybridizing to the complement of the adapter sequence a reporter probe comprising a reporter moiety, whereby a double-stranded reporter moiety is produced;

e) detecting the double-stranded reporter moiety as an indication of amplification of the target sequence.

21. The method of Claim 20 wherein the double-stranded reporter moiety is produced upon hybridization of the reporter moiety to the complement of the adapter sequence.

22. The method of Claim 21 wherein the reporter is a molecular beacon.

23. The method of Claim 20 wherein the double-stranded reporter moiety is produced upon synthesis of a complement of the reporter moiety

24. The method of Claim 20 wherein the target sequence is amplified by SDA, PCR, 3SR, TMA or NASBA.

25. The method of Claim 20 wherein a change in fluorescence is detected.

26. The method of Claim 25 wherein the change in fluorescence is detected in real-time.

27. The method of Claim 25 wherein the change in fluorescence is detected at a selected end-point in the amplification reaction.

28. The method of Claim 20 wherein the reporter moiety is labeled with a fluorescent donor/quencher dye pair.

29. The method of Claim 20 wherein the reporter moiety is selected from the group consisting of secondary structures and specialized sequences.

30. The method of Claim 29 wherein the double-stranded reporter moiety is detected by unfolding of a hairpin structure, unfolding of a G-quartet or by nicking or cleavage of a restriction endonuclease recognition site.

31. The method of Claim 29 wherein a change in the fluorescence results directly from unfolding of a secondary structure.

32. The method of Claim 29 wherein a change in fluorescence results from cleavage or nicking of a restriction endonuclease recognition site in the double-stranded reporter moiety.

33. The method of Claim 20 wherein the reporter probe is non-extendible.

34. The method of Claim 20 which comprises multiple signal primers, each signal primer having a separately detectable adapter sequence.

35. The method of Claim 34 wherein each signal primer hybridizes to a different sequence variant of the target sequence.

36. A method for detecting a nucleic acid target sequence comprising:

a) hybridizing a signal primer comprising an adapter sequence to the target sequence such that the adapter sequence produces a 5′ overhang;

b) synthesizing a complement of the adapter sequence by extension of the hybridized target sequence;

c) hybridizing a reporter probe comprising a reporter moiety to the complement of the adapter sequence, whereby a double-stranded reporter moiety is produced, and;

d) detecting the double-stranded reporter moiety as an indication of the presence of the target sequence.

37. The method of Claim 36 wherein the double-stranded reporter moiety is produced upon hybridization of the reporter moiety to the complement of the adapter sequence.

38. The method of Claim 37 wherein the reporter is a molecular beacon.

39. The method of Claim 36 wherein the double-stranded reporter moiety is produced upon synthesis of a complement of the reporter moiety

40. The method of Claim 36 wherein the double-stranded reporter moiety is detected by unfolding of a secondary structure or by means of a specialized sequence.

41. The method of Claim 40 wherein unfolding of a hairpin structure or a G-quarter structure is detected.

42. The method of Claim 40 wherein cleavage or nicking of a restriction endonuclease recognition site is detected.

43. The method of Claim 36 wherein a change in fluorescence is detected.

44. The method of Claim 43 wherein the reporter moiety is labeled with a donor/quencher dye pair.

45. The method of Claim 36 wherein the signal primer or the reporter probe is non-extendible.

46. The method of Claim 36 which comprises multiple signal primers, each signal primer having a separately detectable adapter sequence.

47. The method of Claim 46 wherein each signal primer hybridizes to a different sequence variant of the target sequence.

48. A set of oligonucleotides for detecting a target sequence comprising:

a) an unlabeled signal primer comprising a single oligonucleotide having a 3' target binding sequence and a 5' adapter sequence, and;

b) a reporter probe comprising a 5' reporter moiety and 3' sequence which is substantially identical to the adapter sequence.

49. The set of oligonucleotides of Claim 48 further comprising a second signal primer having an adapter sequence which is substantially identical to an adapter sequence of a first signal primer.

50. The set of oligonucleotides of Claim 48 further comprising a second signal primer having an adapter sequence which is different from an adapter sequence of a first signal primer.

51. The set of oligonucleotides of Claim 48 wherein the reporter moiety is labeled.

52. The set of oligonucleotides of Claim 51 wherein the reporter moiety is labeled with a fluorescent donor/quencher dye pair.

53. The set of oligonucleotides of Claim 48 wherein the reporter moiety is selected from the group consisting of secondary structures and specialized sequences.

54. The set of oligonucleotides of Claim 53 wherein the reporter moiety is selected from the group consisting of hairpins, G-quartets and restriction endonuclease recognition sites.

55. The set of oligonucleotides of Claim 48 wherein the reporter probe is non-extendible.

56. An oligonucleotide comprising a reporter moiety and nucleotides 15-37 of SEQ ID NO:2, nucleotides 10-34 of SEQ ID NO:15, nucleotides 16-40 of SEQ ID NO:16, nucleotides 16-35 of SEQ ID NO:17, nucleotides 16-30 of SEQ ID NO:18, nucleotides 16-40 of SEQ ID NO:19 or nucleotides 19-43 of SEQ ID NO:20.

57. The oligonucleotide of Claim 56 selected from the group consisting of SEQ ID NO:2, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, SEQ ID NO:19 and SEQ ID NO:20.

58. An oligonucleotide comprising the target binding sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13 or SEQ ID NO:14 and an adapter sequence.

59. The oligonucleotide of Claim 58 selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13 and SEQ ID NO:14.